AMENDMENTS TO THE CLAIMS

1. (Currently amended) System for providing a common time base between different locations on earth, comprising:

a first spacecraft (Sat 1A) carrying a first component of a communication channel, wherein the position of said first spacecraft (Sat 1A) is known,

a plurality of receiving stations at different locations on earth, wherein each receiving station is adapted to receive a first reference signal from said first component,

synchronisation means adapted to provide a synchronised time base between the plurality of receiving stations, and

correction means adapted to correct the synchronisation error of the synchronised time base by the known position of the first spacecraft (Sat 1A) and in accordance with the propagation time of each received first reference signal, wherein at least one receiving station comprises a correlation receiver yielding a correlation gain for receiving the first reference signal, wherein the first spacecraft transmits in a main narrow spot beam and wherein the correlation receiver is suitable for receiving the first reference signal outside the main narrow spot beam of the first spacecraft.

2. (Canceled)

3. (Currently amended) System according to claim[[2]] 1, wherein the correlation receiver is based on the correlation of a predetermined signal pattern contained in the first reference signal.

4. (Currently amended) System according to claim[[2]] 1, wherein the correlation receiver is based on the spread spectrum demodulation of a spread spectrum signal.

5. (Original) System according to claim 4, wherein the spread spectrum demodulation yields a processing gain which corresponds to the correlation gain.

6. (Currently amended) Method for providing a common time base between different locations on earth with the aid of a first spacecraft (Sat 1A) carrying a first component of a communication channel, wherein the position of said first spacecraft (Sat 1A) is known, comprising the steps of:

receiving a first reference signal from said first component by a plurality of receiving stations at different locations on earth,

providing a synchronised time base between the plurality of receiving stations, and

correcting the synchronisation error of the synchronised time base by the known position of the first spacecraft (Sat 1A) and in accordance with the propagation time of each received first reference signal, wherein for at least one receiving station a correlation method yielding a correlation gain for receiving the first reference signal is applied, the first spacecraft transmitting in a main narrow spot beam and the correlation receiver receiving the first reference signal outside the main narrow spot beam of the first spacecraft.

7. (Canceled)

8. (Currently amended) Method according to claim[[7]] 6, wherein the correlation method is based on the correlation of a predetermined signal pattern contained in the first reference signal.

9. (Currently amended) Method according to claim[[7]] 6, wherein the correlation method is based on the spread spectrum demodulation of a spread spectrum signal.

10. (Original) Method according to claim 9, wherein the spread spectrum demodulation yields a processing gain which corresponds to the correlation gain.

11. (Currently amended) Processing station for providing a common time base between different locations on earth with the aid of a first spacecraft (Sat 1A) carrying a first component of a communication channel, wherein the position of said first spacecraft (Sat 1A) is known, comprising:

propagation time data receiving means adapted to receive propagation time data from a plurality of receiving stations at different locations on earth, wherein each receiving station is adapted to receive a first reference signal from said first component and wherein a synchronised time base is provided between the plurality of receiving stations, and

correction means adapted to correct the synchronisation error of the synchronised time base by the known position of the first spacecraft (Sat 1A) and in accordance with the propagation time of each received first reference signal, wherein at least one receiving station comprises a correlation receiver yielding a correlation gain for receiving the reference signal, wherein the first spacecraft transmits in a main narrow spot beam and wherein the correlation receiver is suitable for receiving the first reference signal outside the main narrow spot beam of the first spacecraft.

12. (Currently amended) Processing method for providing a common time base between different locations on earth with the aid of a first spacecraft (Sat 1A) carrying a first component of a communication channel, wherein the position of said first spacecraft (Sat 1A) is known, comprising the steps of:

receiving propagation time data from a plurality of receiving stations at different locations on earth, wherein each receiving station is adapted to receive a first reference signal from said first component and wherein a synchronised time base is provided between the plurality of receiving stations, and

correcting the synchronisation error of the synchronised time base by the known position of the first spacecraft (Sat 1A) and in accordance with the propagation time of each received first reference signal, wherein at least one receiving station comprises a correlation receiver yielding a correlation gain for receiving the reference signal, the first spacecraft

transmitting in a main narrow spot beam and the correlation receiver receiving the first reference signal outside the main narrow spot beam of the first spacecraft.

13. (Withdrawn) System according to claim 1, further comprising means for determining ranging information of a second spacecraft (Sat 2A) with the aid of the first spacecraft (Sat 1A) whose ranging information is known, wherein the second spacecraft (Sat 2A) carries a second component of a communication channel, wherein each receiving station is adapted to receive independently a second reference signal from the second component,

and wherein a calculation means is adapted to calculate said ranging information of said second spacecraft (Sat 2A) in accordance with the propagation time of each second reference signal and in accordance with the corrected synchronised time base.

14. (Withdrawn) System according to claim 13, wherein at least one receiving station comprises a correlation receiver yielding a correlation gain for receiving the first reference signal and/or the second reference signal.

15. (Withdrawn) System according to claim 14, wherein the correlation receiver is based on the correlation of a predetermined signal pattern contained in the first reference signal and/or the second reference signal.

16. (Withdrawn) System according to claim 14, wherein the correlation receiver is based on the spread spectrum demodulation of a spread spectrum signal.

17. (Withdrawn) System according to claim 16, wherein the spread spectrum demodulation yields a processing gain which corresponds to the correlation gain.

18. (Withdrawn) Method according to claim 6, further comprising the steps of determining ranging information of a second spacecraft (Sat 2A) with the aid of the first spacecraft (Sat 1A) whose ranging information is known, wherein the second spacecraft (Sat 2A) carries a second component of a communication channel, wherein

a second reference signal is received from said second component independently by ~~a~~ said plurality of receiving stations at different locations on earth,

and wherein said ranging information of said second spacecraft (Sat 2A) is calculated in accordance with the propagation time of each second reference signal and in accordance with the corrected synchronised time base.

19. (Withdrawn) Method according to claim 18, wherein for at least one receiving station a correlation method yielding a correlation gain for receiving the first reference signal and/or the second reference signal is applied.

20. (Withdrawn) Method according to claim 19, wherein the correlation method is based on the correlation of a predetermined signal pattern contained in the first reference signal and/or the second reference signal.

21. (Withdrawn) Method according to claim 19, wherein the correlation method is based on the spread spectrum demodulation of a spread spectrum signal.

22. (Withdrawn) Method according to claim 21, wherein the spread spectrum demodulation yields a processing gain which corresponds to the correlation gain.

23. (Canceled)

24. (Canceled)

25. (Withdrawn) Processing station according to claim 11, further comprising means for processing ranging information of a second spacecraft (Sat 2A) with the aid of a the first spacecraft (Sat 1A) whose ranging information is known, wherein the second spacecraft (Sat 2A) carries a second component of a communication channel,

wherein each receiving station is adapted to receive a independently a second reference signal from the second component, and wherein a calculation means is adapted to calculate said ranging information of said second spacecraft (Sat 2A) in accordance with the

propagation time of each second reference signal and in accordance with the corrected synchronised time base.

26. (Withdrawn) Processing method according to claim 12, further comprising the steps of processing ranging information of a second spacecraft (Sat 2A) with the aid of the first spacecraft (Sat 1A) whose ranging information is known, wherein the second spacecraft (Sat 2A) carries a second component of a communication channel,

wherein each receiving station is adapted to receive independently a second reference signal from the second component, and wherein said ranging information of said second spacecraft (Sat 2A) is calculated in accordance with the propagation time of each second reference signal and in accordance with the corrected synchronised time base.